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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
09/735,987	12/13/2000	Makoto Miyazaki	P/1071-1230	5703

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EXAMINER

DERRINGTON, JAMES H

ART UNIT	PAPER NUMBER
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1731

DATE MAILED: 03/13/2003

Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary

Application No.

09/735,987

Applicant(s)

MIYAZAKI ET AL.

Examiner

James Derrington

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-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133).
- Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 09 January 2003.
- 2a) ☒ This action is **FINAL**. 2b) ☐ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1-15 and 17-19 is/are pending in the application.
- 4a) Of the above claim(s) _____ is/are withdrawn from consideration.
- 5) ☐ Claim(s) _____ is/are allowed.
- 6) ☒ Claim(s) 1-15 and 17-19 is/are rejected.
- 7) ☐ Claim(s) _____ is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on _____ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
- 11) ☐ The proposed drawing correction filed on _____ is: a) ☐ approved b) ☐ disapproved by the Examiner.
If approved, corrected drawings are required in reply to this Office action.
- 12) ☐ The oath or declaration is objected to by the Examiner.

Priority under 35 U.S.C. §§ 119 and 120

- 13) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
a) ☐ All b) ☐ Some * c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
2. ☐ Certified copies of the priority documents have been received in Application No. _____.
3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).
* See the attached detailed Office action for a list of the certified copies not received.
- 14) ☐ Acknowledgment is made of a claim for domestic priority under 35 U.S.C. § 119(e) (to a provisional application).
a) ☐ The translation of the foreign language provisional application has been received.
- 15) ☐ Acknowledgment is made of a claim for domestic priority under 35 U.S.C. §§ 120 and/or 121.

Attachment(s)

- 1) ☐ Notice of References Cited (PTO-892)
- 2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
- 3) ☐ Information Disclosure Statement(s) (PTO-1449) Paper No(s) _____
- 4) ☐ Interview Summary (PTO-413) Paper No(s). _____
- 5) ☐ Notice of Informal Patent Application (PTO-152)
- 6) ☐ Other:

The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

Claims 1-13 and 17-19 are rejected under 35 U.S.C. 103(a) as being unpatentable over JP09-0106925 A in view of GB 1 274 211 or Takeuchi et al (5,733,499).

In regard to claim 17, JP09-0106925 A disclose the process of mixing a ceramic powder, binder and a first organic solvent and adding a second solvent having with a higher boiling point, i.e. having a relative evaporation rate lower than that of the first organic solvent and then removing the first solvent (See Abstract, par. 0011 of detailed description and claims). Instant claim 17 additionally recites dispersing the ceramic powder and solvent before adding the binder. GB 1 274 211 discloses the process of first dispersing a refractory material or ceramic (page 1, lines 49-62) in a solvent, e.g. ball milling, prior to adding a binder (See page 3, lines 63-70). This technique breaks up the agglomerates and reduces the powder particle size. It would have been obvious to disperse or ball mill the solvent and ceramic of JP09-0106925 A as set forth at par. 0011 of detailed description prior to adding the binder in view of teachings of GB 1 274 211. As further evidence, Takeuchi et al is cited as showing the step of first ball mixing ceramic powder and solvent prior to adding a binder solution (See Col. 7, lines 10-22) for the purpose of preparing ceramic green sheets.

In regard to claim 1 which recites additional features, JP09-0106925 discloses the steps of forming a plurality of composite structures by shaping a ceramic slurry to form a green sheet; applying a conductive paste so as to provide step-like sections of an internal circuit element film of an electronic component; applying a ceramic paste onto the regions on which the element film is not formed, forming laminations of a plurality of the composite structures and firing (Fig.1-4, Abstract, Claims and par. 0011 of detailed description).

With regard to the dependent claims, the cited references also disclose the following. Takeuchi et al disclose the presence of a dispersant (2 parts by weight) during the preparation of the ceramic powder and solvent slurry. It would have been obvious to add a dispersant the slurry of JP09-0106925 A for the art recognized purpose. The solvents disclosed by JP09-0106925 A appear to inherently possess the instantly claimed relative evaporation and boiling points (See detailed description, par. [0010]. But in addition, JP09-0106925 A show the specific combination of xylene (boiling point 140 °C) and terpineol (boiling point 220 °C) – See detailed description, par. [0011]. Takeuchi et al show the steps of filtering ceramic slurries in order to improve the process of producing green sheets (See Col. 1 and examples). It would have been obvious to use a filtering step(s) with the slurry of JP09-0106925 A for art recognized purposes. JP09-0106925 A also show dielectric ceramics and the production of capacitors and layers 13 and 14 can be produced from the same slurry.

Applicant has argued that the references do not teach or suggest controlling the viscosity of a ceramic slurry by first mixing a ceramic powder and first solvent in the

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absence of the binder. However, the examiner maintains that the secondary references do show this step and applicant attention is directed the following section of MPEP 2144

The reason or motivation to modify the reference may often suggest what the inventor has done, but for a different purpose or to solve a different problem. It is not necessary that the prior art suggest the combination to achieve the same advantage or result discovered by applicant. In *re Linter*, 458 F.2d 1013, 173 USPQ 560 (CCPA 1972) (discussed below); Although *Ex parte Levengood*, 28 USPQ2d1300, 1302 (Bd. Pat. App. & Inter. 1993) states that obviousness cannot be established by combining references "without also providing evidence of the motivating force which would impel one skilled in the art to do what the patent applicant has done" (emphasis added), reading the quotation in context it is clear that while there must be motivation to make the claimed invention, there is no requirement that the prior art provide the same reason as the applicant to make the claimed invention.

In *re Linter* the claimed invention was a laundry composition consisting essentially of a dispersant, cationic fabric softener, sugar, sequestering phosphate, and brightener in specified proportions. The claims were rejected over the combination of a primary reference which taught all the claim limitations except for the presence of sugar, and secondary references which taught the addition of sugar as a filler or weighting agent in compositions containing cationic fabric softeners. Appellant argued that in the claimed invention, the sugar is responsible for the compatibility of the cationic softener with the other detergent components. The court sustained the rejection, stating "The fact that appellant uses sugar for a different purpose does not alter the conclusion that its use in prior art composition would be [sic, would have been] *prima facie* obvious from the purpose disclosed in the references." 173 USPQ at 562.

As discussed above, the secondary references show the step of preparing a ceramic slurry by first mixing a ceramic powder and first solvent in the absence of the binder. GB 1 274 211 discloses that this step breaks up the agglomerates and reduces the powder particle size. Thus it would have been obvious for one of ordinary skill in the art to use this step with the process of JP09-0106925 A for the reason disclosed by GB 1 274 211. As discussed above, it is not necessary that the prior art suggest the combination for the same reason disclosed by applicant. The examiner does not agree

with the analysis of Takeuchi et al. This reference provides motivation for performing the filtering step of claim 6 for the reasons disclosed at Col. 1 and shown in the examples.

Claims 14-15 are rejected under 35 U.S.C. 103(a) as being unpatentable over JP09-0106925 A in view of GB 1 274 211 or Takeuchi et al (5,733,499) as applied to claims 1-13 and 17-19 above, and further in view of Tokuda et al (6,157,285).

The JP09-0106925 A reference has been discussed above. The process provides a technique of preparing laminated electronic components so that cracking is avoided while enhancing moisture resistance and avoiding decline in thermal shock (See Problem to be Solved). Tokuda et al disclose a related laminated electronic component, i.e. an inductor, containing curved electrical paths (See Figs.). Magnetic ferrite powder is used to prepare the insulating sheets (See Col. 3, lines 43-50). It would have been obvious for one of ordinary skill in the art to have used the improved slurry forming process of JP09-0106925 A as discussed above and modified by the secondary references for preparing the inductors of Tokuda et al in order to gain the benefits discussed by JP09-0106925 A such as reduced cracking and enhanced moisture resistance.

Additional arguments were not made in regards to this rejection.

THIS ACTION IS MADE FINAL. Applicant is reminded of the extension of time policy as set forth in 37 CFR 1.136(a).

A shortened statutory period for reply to this final action is set to expire **THREE MONTHS** from the mailing date of this action. In the event a first reply is filed within **TWO MONTHS** of the mailing date of this final action and the advisory action is not

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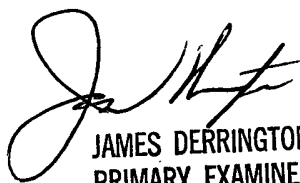
mailed until after the end of the THREE-MONTH shortened statutory period, then the shortened statutory period will expire on the date the advisory action is mailed, and any extension fee pursuant to 37 CFR 1.136(a) will be calculated from the mailing date of the advisory action. In no event, however, will the statutory period for reply expire later than SIX MONTHS from the mailing date of this final action.

Any inquiry concerning this communication or earlier communications from the examiner should be directed to James Derrington whose telephone number is 703 308-3832. The examiner can normally be reached on 8:30am - 5pm.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Steven Griffin can be reached on 703 308-1164. The fax phone numbers for the organization where this application or proceeding is assigned are 703 305-7718 for regular communications and 703 872-9311 for After Final communications.

Any inquiry of a general nature or relating to the status of this application or proceeding should be directed to the receptionist whose telephone number is 703 308 0661.

jd
March 12, 2003


JAMES DERRINGTON
PRIMARY EXAMINER
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